STATISTICAL STUDY ON THE PREVALENCE OF NONSYNDROMIC HYPODONTIA IN YOUTHS

E. BUD¹, S. POPȘOR², ANA MARIA JURCA³, B. CORMOȘ SUCIU⁴, MARIANA PĂCURAR⁵

¹,²,⁴,⁵University of Medicine and Pharmacy of Tîrgu-Mureș

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**Abstract:** The objective of this study is to determine the prevalence of hypodontia in youths. The study was conducted on a sample of 804 randomly selected patients, who did not undergo dental treatment. The study revealed a prevalence of hypodontia of 6.84%. Hypodontia occurs more often in women, most frequently affecting 1 or 2 teeth, with the lower 2nd premolars and upper lateral incisors being most affected.

**INTRODUCTION**

Dental agenesis is the congenital absence of one or more teeth in the deciduous or permanent dentition. The term hypodontia is generally used to describe the absence of one to six teeth. When more than six teeth are missing the term severe hypodontia is used.

Agenesis, currently the most common anomaly in human dentition development, is frequently accompanied by other abnormalities: structural variations and malformations of other teeth, delayed eruption, transposition, dental crowding.

Over the years anthropologists have studied the evolution of human dentition. All came to the conclusion that the change in diet is reflected in morphological changes of the masticatory apparatus. Clinicians suggest that ageneses have increased in frequency in the last decades, but it is not certain whether this is a trend in the dentition of homo-sapiens or rather was it due to increased longevity.

**RESULTS**

Prevalence of hypodontia in relation to the whole group of patients was 6.84%. 55 patients presenting 1 to 9 missing teeth. Structure by age of patients affected by hypodontia is as follows: 11-13 years, 22 patients (40%); 14-16 years, 24 patients (44%); 17-19 years, 6 patients (11%); 20-21 years, 3 patients (5%).

Most patients investigated had two missing teeth - 25 patients (45%); one missing tooth - 20 patients (36%); 3 missing teeth - 4 patients (7%); 4 missing teeth - 3 patients (5%); 5 missing teeth - 1 patient (2%); 6 missing teeth - 1 patient (2%); 9 missing teeth - 1 patient (2%). (Fig. 1) The structure of the group with hypodontia in relation to the type and number of missing teeth is as follows: Upper lateral incisor 1.2-12; Upper 1st premolar 1.4-3; Upper 2nd premolar 1.5-11; Upper lateral incisor 2.2-12; Upper canine 2.3-1; Upper 1st premolar 2.4-3; Upper 2nd premolar 2.5-11; Lower canine 3.1-9; Lower lateral incisor 3.2-1; Lower canine 3.3-1; Lower 1st premolar 3.4-2; Lower 2nd premolar 3.5-16; Lower 1st molar 3.6-1; Lower central incisor 4.1-3; Lower lateral incisor 4.2-1; Lower 1st premolar 4.4-1; Lower 2nd premolar 4.5-19; Lower 1st molar 4.6-1. (Fig. 2) In our study incidence was 1.3 times higher among women than among men, with 21 men and 34 women being affected.

**MATERIALS AND METHODS**

The group consisted of 804 people aged between 11 and 21 years, 559 male and 445 female.

After anamnesis and exo- and endobuccal clinical examinations, in order to confirm the diagnosis in patients with suspected hypodontia, X-ray examinations were conducted using a orthopantomograph. Agenesis of the third molars was not taken into account.

Inclusion criteria: Age of patients between 11 and 21 years; Diagnosis was certain; Patients did not undergo dental extractions.

Exclusion criteria: Patients already receiving orthodontic treatment; Patients with tooth extractions; Patients with tooth loss following traumatic avulsions or periodontal disease.

Data processing: The data from each patient was centralized, provided that it was real, related to the same features and used the same unit of measurement. From data processing resulted tables and graphics. The software used was SPSS. The t-test was used for our patients groups.

**CLINICAL ASPECTS**
cases), the upper 2nd premolar (19% of cases) and the lower (30% of cases) followed by the upper lateral incisor (24.5% of frequently affected by hypodontia were: the lower 2nd premolar missing teeth.

As in Polder, 80% had one or two missing tooth, 35% of patients had two missing teeth and 7% descending order of frequency: 47% of patients had a single missing teeth is not statistically representative.

Comparing incidence by gender, in our study this was 1.3 times higher in women than in men, identical to that found by Polder (5) and Magnussen (6) but higher than that reported by Gupta in 2011 (4).

The most affected teeth were: Lower 2nd premolar 30.7%; Upper lateral incisor 24.5%; Upper 2nd premolar 19%; Lower central incisor 10.5%.

Considering arcade sectors affected by hypodontia we noticed a higher occurrence in the sectors of the: lower premolars - 34%, upper incisors - 24%, upper premolars - 25%.

DISCUSSIONS
Prevalence of hypodontia in our study was 6.84%, comparable to that of 6.5% found by Aasheim and Øgaard (1) in 1993, lower than that of 7.4% presented by Backman (2) in 2001 and of 7.2% found by Tallon-Walton (3) in 2010, but higher than that of 4.2% reported by Gupta in 2011 (4).

Comparing incidence by gender, in our study this was 1.3 times higher in women than in men, identical to that found by Polder (5) and Magnussen (6) but higher than that reported by Rolling (7) who found a nearly equal incidence between genders. Following the t test, the value of the P-value representing the significance of the test was 0.4, higher than 0.05 which corresponds to a 95% confidence. Therefore the difference between the two sexes based on the number and type of missing teeth is not statistically representative.

As far as the number of missing teeth is concerned, most frequently we found patients with two missing teeth (45.5% of cases), followed by those with one missing tooth (36% of cases) and those with three missing teeth (7.5% of cases). In 2004 Polder (5) found the following situation in order of frequency of affected teeth: 41.8% lower 2nd premolars, 22.5% upper lateral incisor, 20.25% upper 2nd premolars and 4% lower central incisors.

In our study bilateral and unilateral agenesis of most frequently affected teeth has the following values: upper lateral incisors present bilateral anodontia in 57.1% of cases and unilateral agenesis in 42.9%. In the case of the lower 2nd premolars unilateral agenesis has a frequency of 46.2% and unilateral agenesis of 53.8%. Bilateral agenesis affects the upper 2nd premolars in 28.5% of cases and the lower central incisors in 16.66% of cases.

These results are comparable to those of Polder (5): bilateral agenesis of the upper lateral incisors is more common than the unilateral (50.9 to 57%). For the other teeth bilateral agenesis is less frequent: lower 2nd premolars (43.5 to 47.7%), upper 2nd premolars (46.3 to 52.2%), and lower central incisors (30.5 to 51.9%).

CONCLUSIONS
Prevalence of nonsyndromic hypodontia in the permanent dentition has a value of 6.84%, comparable to the mean results from the specialty literature.

Women are more affected by hypodontia but not enough to represent statistical significance.

The most commonly affected were patients with a low level of hypodontia (1 or 2 missing teeth) which favors a more easy treatment.

The arcade sector most affected is the lower premolar region followed by the upper incisors region.

BIBLIOGRAPHY